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REPORT OF FOLLOW-UP VISIT TO ETHIOPIA

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During the period of January 29 - March 1, 1961 a follow-up visit concerned with the Nutrition Survey made by the ICNND team in 1958 was made in the company of Ato Abraham Besrat who was returning to Ethiopia. Ato Abraham had for 2½ years been an ICA fellow at Oklahoma State University and in January, 1961 completed the requirements for the MS degree. During the entire month Ato Abraham and I traveled together in an effort to become acquainted with as many health, nutrition and agricultural problems of Ethiopia as possible. At the end of this period Ato Abraham went to the Imperial Ethiopian College of Agriculture and Mechanical Arts at Alemya to join the staff of the Department of Chemistry to teach chemistry and biochemistry and to do research on the biochemical and nutritional problems of Ethiopia.

A. Consultations Enroute.

At Rome we visited Dr. van Veen at F.A.O. Headquarters. Here we met Dr. George Kapsiotis who visited Ethiopia during late February. Dr. van Veen reviewed the F.A.O. program in Ethiopia and indicated areas of activity which would be of interest to us. He expressed satisfaction that a person with Ato Abraham's professional training would be active in nutrition work in Ethiopia and offered the assistance his office might provide to Ato Abraham. He suggested that we spend time in Addis Ababa learning of the program of Home Economics training being conducted by Miss Jean Bauman, one of the F.A.O. staff in Addis Ababa.

At Cairo contacts were made with the personnel of the NAMRU No. 3 laboratory. Dr. August Miale reviewed their program and showed us their laboratories and equipment. This contact should prove useful to Ato Abraham. He can obtain library assistance and advice on health problems peculiar to that section of the world.

B. Activities with the Ministry of Health and USOM Public Health Division.

Our activities during the month-long visit were centered in the Ministry of Health. Dr. J. S. Prince, the Chief Public Health Advisor, made arrangements for local transportation and for transportation for Ato Abraham to all health related facilities. Unfortunately Ato Ephraim Borrou, Assistant Ministry of Health, was in India attending a world conference during the entire month of February. A brief meeting was held with His Excellence Ato Abebe Retta, Minister of Health. At that time I suggested that the best assignment for Ato Abraham for the long term technical development of Ethiopia might be to have him teach others his chosen field as an instructor at the Agricultural College at Alemya.

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His Excellency questioned this and suggested that we should be thinking of solutions to problems as they exist today. I suggested that a compromise solution might be to lend Ato Abraham to the Ministry of Health for the summer months to offer instruction at Gondar, at the Nurses' School at Asmara and to do writing and research in the Addis hospitals and the Pasteur Institute the remainder of the summer. This suggestion seemed to be well received so this program was pushed during the remainder of my visit.

Brief meetings were held with Ato Johannes and Ato Makonnen of the Ministry, and they seemed pleased with this suggested arrangement.

One meeting of the Nutrition Board was devoted to a discussion of nutrition, the ICNND Report and to Ato Abraham's feeding experiments which were reported in his MS thesis. These studies showed that supplementation of teff protein with lysine alone improved the protein efficiency ratio of this cereal protein to approximately that found for casein in the same study. He pointed out that some attention should be given to research and to education aimed at identifying and encouraging the increased use of available plant foods, sufficiently high in lysine content, to correct the lysine deficiency which might result in populations depending largely on teff for their amino acid requirements. The more widespread use of animal protein sources as a solution was also emphasized.

The agenda of one meeting of the Medical Advisory Board was devoted to a discussion of nutrition and especially to problems of infant nutrition. This meeting was held about midway in the period of the visit and was unfortunately before the visit to Gondar. Our thinking regarding the methods of improving the infant nutrition in Ethiopia was influenced by the Medical Advisory Board meeting, by visits to the Agricultural Schools and by discussions with the personnel at the Public Health College and Training Center at Gondar. Several members of the Medical Advisory Board, who have had extensive experience with infant feeding in hospitals, provided useful ideas for Ato Abraham. Several expressed approval of the idea of using Ato Abraham for instruction and for human nutrition research during the summer months when his services could be spared from his teaching duties at the College at Alemaya. The Board feels that more attention should be given to the educational approach to improved infant feeding and that the beginning must be made by preparing material for use in such instruction. This material must be practical, employing the existing foods and must be based on sound nutritional principles. The compilation of tables of composition of local foods and the publication of a "Handbook of Nutrition for Ethiopia" as recommended in the ICNND report were items of first priority. Hope was expressed that Ato Abraham, in cooperation with Miss Jean Bauman and Ato Makonnen, might prepare a handbook in the near future. Several of the Board and the staff at Gondar expressed the need for such a publication which might be used by the Gondar staff, provincial health officers and their staffs, agricultural extension agents and instructors in courses in health and hygiene in the public schools and colleges.

Another significant action came from the Medical Advisory Board meeting. A motion was passed providing for an invitation to Dr. L. J. Teply of UNICEF to come to Ethiopia to help initiate a project of iodizing all or most of the common salt produced and sold in Ethiopia. The ICNND report had recommended this action, it had been discussed by the Nutrition Board and by the Medical Advisory Board, but this is the most positive action to be taken. Technical assistance would be required on this matter and it would be very helpful if Dr. Teply could arrange to accept this assignment.

To acquaint Ato Abraham and me with the health problems in more rural areas Dr. Prince suggested we might like to visit the new Gojjam Province Health Center at Debre Marcos. This one-day trip served to acquaint both of us with the type of health service which is being developed in Ethiopia through the excellent training provided by the Public Health College and Training Center at Gondar. The attached report of this trip (Enclosure No. 1) was made to Dr. Prince at his request.

Debre Marcos is a community of approximately 15,000 but the development of the town is at approximately the same stage as the outlying villages. The schools are better than usual and are providing space for a much larger percentage of the school age children of the community than is the case in the country at large. The school buildings were all constructed relatively recently and are of better quality than those seen in many similar communities. Science laboratories reasonably well equipped for teaching chemistry and biology were available for the high school students. The combination of the health center and the public school presents a good opportunity to provide instruction in personal hygiene. This is a phase of the program being stressed at Gondar, but not a great deal was being done in this area at Debre Marcos. Instruction in nutrition will probably not be offered very effectively by the health officers until this aspect of their training gets more emphasis at Gondar. If Ato Abraham can provide sound, effective instruction and leave with the students printed material which will serve as the basis for instruction the health officers will offer in the public schools and at mother and child care clinics, it may be possible to reach the populace with the needed nutritional information. Again the need of a basic handbook is stressed.

The use of films for adult health education appears to be a good possibility. It seems likely that during the dry season, when farm work is at a minimum, a sizeable portion of the adult population of a community could be assembled in the village square in the evening for educational films. If films were available dealing with health problems of the country using native personnel in such a manner as to demonstrate the practicality of recommendations it should be very effective. Education of the children alone is not enough. The practices adhered to by domineering parents will outweigh instruction to children in the school. Subjects such as water supply, waste disposal, insect control, venereal disease control, personal cleanliness and nutrition could be treated effectively in this way. The preparation of films and the purchase of projection equipment would involve a large initial outlay, but the showings could be made by the local health officers without added expense.

The visit to the Public Health College and Training Center is reported in the attached report made to Dr. J. S. Prince (Enclosure No. 2). An effort was made to become familiar with the program of the college and the health service which can be expected in a few years and to evaluate the nutrition education potential. Dr. Rosa and Dr. Han invited me to give two hours of instruction in nutrition to the senior class of health officers. The instruction was repeated the following day for the public health nurses and the junior health officers. With the thought that the outline might be useful to Ato Abraham in planning more extensive training in nutrition and that it might be of interest to personnel at the college and at Dr. Prince's office, it was duplicated and copies left. The outline used for these lectures is attached.

This visit established useful contacts for Ato Abraham and served to acquaint him with the nutrition and other health problems of Ethiopia and how these problems are being met. The entire plan of meeting the need for technically trained people in the area of public health was very impressive. Persons trained at the Gondar school should be able to handle their assignments and through continuing education to meet the subsequent needs for a more refined public health service as developments in this area occur.

A brief visit was made to the Nursing School in Asmara. They appeared willing to have Ato Abraham come there in the summer to offer instruction in nutrition, but unless someone follows through on this and urges such instruction I doubt if anything will be done. I would suggest that the committee remind Dr. Prince within a week or two that if they wish to have Ato Abraham's services for teaching and research this summer a request directed to President Kindell should be submitted in the next few weeks. I think it would be appropriate to suggest that such instruction be offered especially at Asmara where there was not the same understanding reached as was witnessed at Gondar.

C. Activities with the Oklahoma State University Contract Personnel.

Four areas were inspected through arrangements with Mr. Bonnie Nicholson, the chief representative for the OSU contract. Mr. Hugh Rouk, Director of Research for the contract, took us to the Central Experimental Station at Debre Zeit (Bishoftu) and to the Wonji Sugar Plantation on the Awash River. The Central Experiment Station is serving as a convenient training center for extension agents. Work there is concerned with development of horticultural crops and to the development of grain storage and poultry housing facilities using readily available materials. The sugar plantation which was developed by a Dutch company is a remarkably successful enterprise. It has provided about 80 million pounds of sugar, essentially the entire sugar consumption of Ethiopia, and is being enlarged continually to meet the increased demand. The company will soon have 5000 acres under cultivation.

Brief visits were made to the Technical High School at Jimma and to the college at Alemya. The attached reports (Enclosure No. 3) made to Mr. Nicholson cover my reaction to these programs adequately. It should

be added that Ato Abraham had conferences with President Clyde Kindell at the college and it was agreed he would be added to the staff to teach chemistry. Dr. Kindell was willing for Ato Abraham to spend his summer months doing teaching and research with the Ministry of Health provided that a formal request were made from the Ministry of Health, that he not consider this another position but only a loan for the summer, and that the research that he does during the summer months be considered a part of his research program at the College. Dr. Kindell is anxious not to set a precedent of having his Ethiopian staff, who are hired for the entire calendar year, accept summer work elsewhere. Staff members are expected to work on research during the summer months.

Ato Abraham made certain requests for space and facilities which would be needed to pursue a program of research in food and feed composition. Dr. Kindell asked Ato Abraham to submit drawings of laboratory facilities he would require. Certain items of equipment not now available are urgently needed to begin the research Ato Abraham has planned. It is suggested that these items be shipped promptly to Ato Abraham if they can be made available by ICNND. This list of equipment with specifications and prices is attached (Enclosure No. 4). Other items needed, but without which work can begin on a modest scale, should be provided, perhaps from grant funds after an NIH grant has been acted on (see Enclosure No. 4).

A few needed books and chemicals have been provided by the OSU contract or by me or this Department to assist in getting research started. Assistance in getting research grant application forms to Ato Abraham would be appreciated.

Textbooks, reference books and journals were requested by Ato Abraham and it appears likely that his request can be met since \$40,000 has been received from the Rockefeller Foundation to provide books and journals for the library now under construction.

The equipment left in the Nutrition Laboratory by the ICNND team has not been extensively used since the team left. It is in good condition except that a Coleman Junior Spectrophotometer is not functioning. The question of what to do with this laboratory was being discussed during the period of my visit.

Funds have been appropriated to the Ministry of Health to remodel space in the basement of the Pasteur Institute to provide a place for the Nutrition Laboratory. Dr. Serie, present director of the Pasteur Institute, prefers not to have the Nutrition Laboratory housed in the Institute unless it becomes a part of the Institute and comes under his supervision. He and Ato Makonnen agreed to examine the situation carefully. The functions of the laboratory presumably fall into two areas. One is concerned with food analysis, the other with clinical chemistry. The former function might logically be associated with the college at Alemya, an opinion voiced by Dr. Serie. The situation emphasizes the need for more Ethiopians trained in the fields of nutrition and biochemistry and it is hoped that Ato Abraham's teaching will attract able students to this area of science.

The home economics training is in need of attention. The one year school conducted by F.A.O. with the assistance of the Ethiopian Government is doing much good, but it will not meet the need for high school teachers and extension agents in this field. The Oklahoma State University contract people have been considering the feasibility of gradually introducing a home economics curriculum, first at Jimma and later at Alemya. They are reluctant to push this matter because their present program has been criticized in past years by various I.C.A. administrators because of the slowness with which the U.S. personnel is being replaced by Ethiopians. With a limited output of students with the BS degree, in Ethiopia it will be many years before enough persons can be found and given advanced training to return and take over the Agricultural College administration and teaching. It is my feeling that it will be many years before this operation can be properly transferred to Ethiopian personnel. The establishment of a home economics program is vital to the development of nutrition in the country. It will be hampered by the lack of qualified students for a few years, but the high school level beginning can be used to prepare home demonstration agents. Four students from Ethiopia are studying home economics at the Beirut College for Women. These and other foreign trained personnel can be useful in high school teaching to build up interest and training needed in this area.

In summary it appears that only minor changes could have occurred since the survey of 1958. The recommendations made in the survey report are considered sound and will be adopted as it is feasible. The Nutrition Laboratory has not been used extensively due in large part to lack of trained personnel and there is no immediate prospect of laboratory work being instituted except by Ato Abraham. The impact of a training program for public health officers and agricultural extension agents is beginning to show up. These persons cannot be expected to change practices which affect nutrition until more formal instruction and teaching material is made available during their training.

Ato Abraham Besrat will be attempting to improve the nutritional status of Ethiopia by

1. teaching more students biochemistry and nutrition at the agricultural college.
2. assembling information and doing research on food composition.
3. providing instruction in practical nutrition at the college, to students enrolled and to extension agents.
4. offering instruction in nutrition at the Public Health College at Gondar and at the Nursing School at Asmara.
5. doing research on protein evaluation and supplementation of native foods with experimental animals at Alemya and perhaps with humans at Addis Ababa.

The Nutrition Board is meeting occasionally and considering nutrition problems. The Medical Advisory Board has recommended that UNICEF assistance be sought in getting the salt supply of the country iodized.

Mention should be made of the usefulness of the ICNND team report. All of the copies originally made available have been distributed, and many times comments were made to the effect that certain persons would like to have more copies made available. For example, the Public Health School at Gondar needed more copies for staff and library use. The public health education officer of ICA expressed the hope that copies could be provided for all of the health officers. At the Beirut College for Women copies were requested so that the teaching of foods and nutrition could take into account the food habits and the findings of the nutrition survey team in teaching the students from Ethiopia. Everyone expressed satisfaction at the amount of pertinent information which had been compiled in the report. No other one source would be so useful to a person concerned with food and nutrition work in Ethiopia.

Appreciation is expressed to His Excellency, Ato Abebe Retta, the Minister of Health, to other members of the Ministry of Health and to all USOM and Oklahoma State University contract personnel for their cooperation and hospitality during this brief visit.